Undescribed Species of Crane-flies from the Himalaya Mountains (Diptera: Tipulidae), XI[1]

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Abstract: Six new species of the Eriopterine genus *Ormosia* Rondani are described, including *Ormosia* (*Ormosia*) **kashmiri** n. sp., from Kashmir; *O.* (*O.*) **nyctopoda** n. sp., from Pakistan; *O.* (*O.*) **moghalensis** n. sp., *O.* (*O.*) **harsha** n. sp., and *O.* (*O.*) ***rhaphidis*** n. sp., from Kumaon; *O.* (*O.*) ***setaxilla*** n. sp., from Sikkim.

Part X of this series of papers was published in the Journal of the New York Entomological Society, 73: 33–38, 1965. The present paper continues the study of the genus *Ormosia* Rondani, a very large group of usually small and medium-sized crane-flies that are eminently characteristic of the Holarctic Region. The present materials were collected by Dr. Fernand Schmid to whom much of our recent knowledge of Indian species of these flies is due. The types are preserved in my personal collection.

Ormosia (*Ormosia*) **moghalensis** n. sp.

Legs brown, the tips of the femora pale yellow; wings light brown, conspicuously variegated by whitened areas in several of the cells, chiefly as narrow arcuated or transverse nearly continuous bands; cell M_2 open by atrophy of basal section of M_3, vein *2nd A* sinuous; male hypopygium with a single compact dististyle; phallosome including trispinous gonopophyses.

MALE. Length about 4.5 mm; wing 5 mm.

Type mounted on a microscope slide. Legs with femora brown, tips narrowly pale yellow; remainder of legs brown, the outer tarsal segments brownish yellow. Wings light brown, conspicuously variegated by whitened areas on disk, including a nearly complete transverse band from before origin of *Rs* to vein *2nd A*; a second arcuated area just before cord, extending from vein *R* across center of cell R_1, outer end of cell *R* and near outer end of cell *M*; a narrower extensive very sinuous band beyond cord, from base of cell R_3 across cells R_4 and R_5 at near midlength, thence bent backward and basad into cell *M* and beyond bases of cells M_3 and M_4; a more isolated whitened spot near tip of vein *1st A* in both cells *Cu* and *1st A*; stigma yellowed, narrowly darkened posteriorly; veins chiefly brown. Venation: Sc_1 ending opposite R_2, Sc_2 about opposite midlength of *Rs*; R_{2+3} and R_2 subequal; cell M_2 open by atrophy of basal section of M_3; *m–cu* just before fork of *M*; vein *2nd A* sinuous on outer two-fifths.

Abdomen, including hypopygium, dark brown. Male hypopygium with tergite produced into a broad depressed-flattened lobe that is gently widened outwardly, posterior border truncate, extensively membranous, densely set with small patches or islets of approximately ten setulae to each group, those at base of the membranous area larger and with more numerous setulae. Basistyle stout; dististyle single, terminal in position, appearing as a compact yellow structure, its inner apical angle produced into a long blackened spine. Phallosome including bispinous gonapophyses and a closely interconnected further spine in the region

[1] Contribution from the Entomological Laboratory, University of Massachusetts.

of the interbase, all spines slender, blackened, the outermost largest. Aedeagus terminating in a strongly recurved simple crook.

HOLOTYPE ♂, Ugsara, Pauri Garhwal, Kumaon, 4,500 feet, May 29, 1958 (Schmid).

Ormosia (*Ormosia*) **moghalensis** is entirely distinct from other regional members of the genus, especially in the wing pattern and in the structure of the male hypopygium.

Ormosia (*Ormosia*) **nyctopoda** n. sp.

General coloration brownish gray, the praescutum with two slightly darker brown intermediate stripes; antennae black; halteres yellowed; legs dark brown; wings uniformly tinged with pale brown, stigma elongate, slightly darker; vein R_{2+3+4} about twice R_{2+3}; cell *1st* M_2 shorter than M_4; vein *2nd A* virtually straight.

FEMALE. Length about 6.5 mm; wing 7.5 mm.

Rostrum brownish gray; palpi black. Antennae black; flagellar segments oval, a little shorter than their verticils; terminal segment exceeding the penultimate. Head brownish gray, with yellow setae.

Pronotum brownish gray, the lateral angles of the scutellum slightly more yellowed. Mesonotum brownish gray, praescutum with two slightly darker brown intermediate stripes, subobsolete or confluent before the tuberculate pits, distinct behind; pseudosutural foveae black, conspicuous. Pleura dark gray, dorsopleural membrane brown. Halteres yellowed. Legs with coxae and trochanters gray, remainder of legs uniformly dark brown. Wings uniformly tinged with pale brown, the elongate stigma slightly darker brown; veins light brown. Venation: Sc_1 ending opposite R_2, Sc_2 beyond one-third the length of the straight Rs; R_{2+3+4} relatively short, about twice R_{2+3}; cell *1st* M_2 closed, shorter than M_4; *m–cu* about one-third its length beyond fork of M; vein *2nd A* virtually straight, the outer third a little sinuous.

Abdomen brownish gray. Ovipositor large, valves horn yellow, basal half of cerci darker.

HOLOTYPE ♀, Salf-ul-Maluk Sar, Pakistan, at lake margin, 11,000 feet, July 2, 1953 (Schmid).

Ormosia (*Ormosia*) **nyctopoda** is readily told from other regional members of the genus by the coloration of the body, legs, and wings, in conjunction with the venation, especially the closed cell *1st* M_2 and the nearly straight vein *2nd A*. It is possible that the fly pertains to the subgenus *Rhypholophus* Kolenati, where the males have the penis filaments bifid instead of simple as in typical *Ormosia*. Among the European species the fly somewhat suggests *Ormosia fascipennis* (Zetterstedt) which is told readily by the patterned wings

Ormosia (*Ormosia*) **harsha** n. sp.

Allied to *pulchra*; size relatively large (wing of male 6 mm or more); general coloration of thorax gray, praescutum with a brown central stripe; halteres light yellow; femora yellow with two brown rings; wings brownish gray, restrictedly variegated by dark and pale areas; cell M_2 open by atrophy of basal section of M_3; male hypopygium with the dististyle and each gonapophysis bifid; apex of tergite with a shallow V-shaped emargination.

MALE. Length about 4.8–5.5 mm; wing 6–7 mm; antenna about 1.2–1.3 mm.

female. Length about 5.5 mm; wing 6 mm.

Rostrum and palpi black. Antennae black, pedicel light brown; flagellar segments elongate with conspicuous verticils on proximal segments, additional to dense white setae. Head dark gray.

Pronotum brownish gray, sides of scutellum yellowed. Mesonotum gray, praescutum with a broad brown central stripe and poorly defined laterals. Pleura medium gray. Halteres light yellow. Legs with coxae brownish gray; trochanters obscure yellow; femora yellow with a broad dark brown nearly terminal ring and a still more extensive paler brown band at near midlength; tibiae brown; tarsi passing into black. Wings light brownish gray, restrictedly variegated by dark and paler areas, stigma darkest; vague brown clouds in cells *C* and *Sc*, in outer radial field and less evidently in bases of cubital and anal cells; veins brown, prearcular field more yellowed. Venation: Sc_1, ending just beyond R_2, Sc_2 about opposite one-third *Rs*; veins R_3 and R_4 moderately upcurved at tips; R_{2+3} and R_2 subequal; cell M_2 open by atrophy of basal section of M_3, *m* transverse; *m–cu* a short distance before fork of *M*; vein *2nd A* sinuous on outer half.

Abdomen, including hypopygium, dark brown. Male hypopygium with tergal lobe long, posterior border with a shallow V-shaped emargination, the apex with a triangular membranous area, with setae on the darkened sclerotized parts only. Basistyle with outer apical angle slightly produced. Dististyle virtually single, including a major style with a small scalelike inner blade at its base; major body unequally bispinous, the inner point large, blackened, gently curved to the acute tip, with a small lateral flange before apex, bearing a single long seta; outer point small and slender. Phallosome including distinctive black apophyses, these unequally bifid, the major inner arm a flattened blade, its tip acute; outer arm a slender acute blackened spine.

holotype ♂, Gangrea, Pauri Garhwal, Kumaon, 7,500–10,000 feet, June 13, 1958 (Schmid). Allotopotype, ♀. Paratopotypes, several of both sexes.

The most similar species include the smaller *Ormosia* (*Ormosia*) **kashmiri** n. sp., and *O.* (*O.*) *pulchra* (Brunetti), differing evidently in the structure of the male hypopygium, particularly the dististyles and gonapophyses.

Ormosia (*Ormosia*) **kashmiri** n. sp.

Allied to *pulchra*; general coloration gray, praescutum with a broad brown central stripe; femora yellow, biannulate with brown, outer dark ring subterminal; wings brown, with restricted yellow spots; vein *2nd A* strongly sinuous; male hypopygium with posterior border of tergite very gently emarginate; both dististyles terminating in acute blackened points, gonapophyses appearing as triangular blackened blades.

male. Length about 4.5 mm; wing 5 mm; antenna about 1.4 mm.

female. Length about 5 mm; wing 5.7 mm.

Rostrum and palpi black. Antennae light brown; flagellar segments subcylindrical, outer ones elongate-oval; verticils of the more proximal segments very long, exceeding twice the length of the segments, all the latter with further dense short yellow setae. Head brownish gray.

Pronotum obscure yellow, scutellum and pretergites light yellow. Mesonotal praescutum gray with a broad brown central stripe that is more intensely darkened medially behind, lateral stripes poorly indicated; posterior sclerites brownish gray, each scutal lobe with two brown areas. Pleura dark gray, dorsopleural membrane brown. Halteres yellowed, the apex of knob clearer yellow. Legs with coxae gray; trochanters yellow; femora yellow, biannulate with brown, the extreme tip and a narrow intermediate ring yellow; tibiae and

tarsi brown. Wings brown, restrictedly patterned with yellowed spots before origin of *Rs* and cord and in outer ends of cells R_2, R_3, and R_4; other pale areas in both anal cells and in the prearcular field; veins brown. Venation: Sc_1 ending just beyond R_2, the latter at or just beyond the fork of R_{2+3+4}; tips of veins R_3 and R_4 upcurved; *m–cu* before fork of *M*; outer half of vein *2nd A* strongly sinuous, in the allotype lying somewhat closer to the wing margin.

Abdomen dark brown. Male hypopygium with posterior border of tergal lobe very gently emarginate. Both dististyles terminating in acute blackened points. Gonapophyses appearing as triangular blackened blades, the apical point microscopically bidenticulate; lateral margin with a single acute spine; cephalic border with a few microscopic teeth.

HOLOTYPE ♂, Shardi, Kashmir, 6,130 feet, May 19, 1954 (Schmid). Allotopotype, ♀, pinned with type.

Ormosia (*Ormosia*) **kashmiri** is closely allied and generally similar to *O.* (*O.*) *pulchra* (Brunetti), differing evidently in the hypopygial structure, including the dististyles and gonapophyses.

Ormosia (*Ormosia*) **rhaphidis** n. sp.

Size medium (wing about 5.5 mm); head gray; general coloration of thorax fulvous yellow; halteres light yellow; legs brownish black, femoral bases yellowed; wings brownish yellow, stigmal region faintly darker; cell M_2 open by atrophy of basal section of M_3, vein *2nd A* sinuous; male hypopygium with the basistyle produced apically into a slender spine; gonapophyses appearing as simple blackened reniform blades.

MALE. Length about 4.7 mm; wing 5.5 mm; antenna about 1 mm.

FEMALE. Length about 5 mm; wing 5.3 mm.

Rostrum brown; palpi black. Antennae relatively short; scape and pedicel light brown, flagellum brownish black; segments oval, the more proximal ones with very long verticils, especially in the male. Head gray.

Thorax almost uniformly fulvous yellow, sides of praescutum and the dorsopleural membrane clearer yellow; pseudosutural foveae reddish; thoracic vestiture golden yellow. Halteres light yellow. Legs with coxae and trochanters yellow; femora brownish black, bases yellowed, remainder of legs brownish black. Wings brownish yellow, stigmal region faintly darker, prearcular and costal fields clearer yellow; veins pale brown, only slightly more yellowed in the brighter areas. Venation: Sc_1 ending opposite R_2, Sc_2 about opposite one-third *Rs*, R_2 a little longer than R_3; cell M_2 open by atrophy of basal section of M_3; *m* oblique, merging gradually with M_3; *m–cu* at fork of *M*; vein *2nd A* sinuous on more than the outer third.

Abdomen dark brown, tergal region of hypopygium paler. Ovipositor with genital segment fulvous, valves light horn yellow. Male hypopygium with apical lobe of tergite relatively short, transverse, posterior border very gently emarginate, lateral angles broadly obtuse. Basistyle with outer apical angle produced into an acute slender spine that is fully one-half as long as the inner dististyle; setae at base of spine very long, much exceeding the spine. Dististyles united basally, outer style a slender sclerotized rod, narrowed and strongly curved into a long acute blackened spine; inner style a stouter straight rod, its tip acute, inner margin at base with a small oval lobe or scale. Phallosome including a blackened reniform apophysis, its apex sharp-pointed. Aedeagus slender, apex curved.

HOLOTYPE ♂, Gangrea, Pauri Garhwal, Kumaon, 7,500–10,000 feet, June 13, 1958 (Schmid). Allotopotype ♀, pinned with type.

Ormosia (*Ormosia*) **rhaphidis** is readily told from other regional species having unpatterned wings with cell M_2 open by the atrophy of the basal section of M_3 by the structure of the male hypopygium, particularly the long terminal spine of the basistyle and the simple gonapophyses. The most similar such species is *O.* (*O.*) *setaxilla* n. sp.

Ormosia (*Ormosia*) **setaxilla** n. sp.

Size small (wing of male about 6 mm); general coloration of thorax plumbeous gray, praescutum broadly darkened medially; antennae relatively short; halteres yellow; wings whitened, stigma brown, cell M_2 open by atrophy of basal section of M_3, vein *2nd A* strongly sinuous; male hypopygium with outer dististyle small, triangular; inner apophyses blackened, reniform, outer apophyses curved into a long spine with a brush of setae in its axil.

MALE. Length about 5.5–5.7 mm; wing 6.0–6.2 mm; antenna about 1.2–1.3 mm.

FEMALE. Length about 5.5–6.0 mm; wing 6.2–6.3 mm.

Rostrum and palpi brown. Antennae relatively short; basal flagellar segments oval, outer ones more elongate, subcylindrical. Head brown.

Thorax almost uniformly dark plumbeous gray, the broad central region of praescutum darker; pseudosutural foveae black. Halteres yellow. Legs with coxae dark brown, trochanters more yellowed; remainder of legs dark brown. Wings whitened, stigma brown; very narrow and vague darkenings over the cord; veins brown, *Sc* and prearcular veins paler. Venation: Sc_1 ends shortly beyond R_2, Sc_2 at near two-fifths Rs; R_{2+3} and R_2 subequal; cell M_2 open by atrophy of basal section of M_3; *m–cu* gently sinuous, erect, at the fork of M; vein *2nd A* strongly sinuous on outer half.

Abdomen, including hypopygium, dark brown. Male hypopygium with apex of tergite emarginate to form two obtuse lobes. Dististyles terminal; outer style small, triangular, extended into a point; inner style about twice as long, appearing as a flat darkened blade, its apex obtuse. Phallosome including the small slender aedeagus, its apex bent at a right angle; inner gonapophysis appearing as a blackened gently arcuate reniform structure, the tip acute; outer apophysis with base expanded, yellow, outer half a gently curved slender spine with a brush of long setae in its axil.

HOLOTYPE ♂, Chumzomoi Choka, Sikkim, 11,800 feet, in *Rhododendron* association, July 8, 1959 (Schmid). Paratopotype ♂, with the type. Paratypes ♂ ♀, Chachu, Sikkim, 11,500 feet, June 28–29, 1959 (Schmid); ♂ ♀, Yumtang, Sikkim, 12,140 feet, in *Rhododendron* association, June 27, 1959 (Schmid).

Ormosia (*Ormosia*) **setaxilla** is most similar to species such as *O.* (*O.*) *geniculata* (Brunetti) and *O.* (*O.*) *pulchra* (Brunetti), together with a few other allied forms described in the present paper. The fly differs from all of these in the hypopygial structure, particularly of the dististyles and phallosome.

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